USPS Pricing Engine SDK

July 20, 2018

Summary

This is the Domestic and International Pricing Engine SDK (version 11.6.3.0) for the July 27, 2018 Release. The following is a list of enhancements included in this release.

Integration of WebTools for City/State Data

Starting with Release 11.6.3.0 the Pricing Engine will no longer use internal logic or it our database for the City / State data. The Pricing Engine will use the WebTools Web Service API for City / State related data. The following keys are required to the <appSettings> section of configuration files for applications making calls to the Domestic Pricing Engine:

CityStateLookupWebToolURL

The URL for the WebTools Web Service API.

Example:

```
<add
        key="CityStateLookupWebToolURL"
        value="http://production.shippingapis.com/ShippingAPI.dll " />
```

CityStateLookupWebToolRetries

The number of retries before the internal logic is used.

Example:

```
<add key="CityStateLookupWebToolRetries" value="2"/>
```

CityStateLookupWebToolTimeout

The number of milliseconds the call is given before timing out.

Example:

```
<add key="CityStateLookupWebToolTimeout" value="3000"/>
```

Failed Call to the WebTools Web Service API

If the number of retries is exceeded without success the Domestic Price Engine will use internal City / State logic. Since the names of the Cities and States cannot be determined, the responding City and State fields in the Geography object will be empty strings. Failure to access City / State data will not affect the rates, service comments or other data returned by the Pricing Engine.

Secure Socket / TLS 1.2 Protocol

Rebuild Libraries to Use .NET Framework 4.5

To allow the Pricing Engine to make calls upstream systems using the TLS 1.2 Protocol all the Pricing Engine libraries have been rebuilt to use the .NET Framework 4.5. As a result all applications that integrate with any of the Pricing Engine libraries will also need to be rebuilt to use the .NET Framework 4.5.

Important: If you are use the Global Assembly Cache for the Pricing Engine Libraries make sure you use the latest version of the GAC utility.

SDC

It has been mandated by USPS that all network traffic between application be encrypted using the TLS 1.2 Protocol. To accomplish this mandate, the Pricing Engine has been updated to call SDC using secure socket with the TLS 1.2 Protocol. The following changes are required to configuration files for applications making calls to the Domestic Pricing Engine or the Service Delivery Extensions.

Note: SDC R8 should be no longer used.

Binding Section

Add the **bolded** section to the SDC binding

```
<binding name="serviceDeliveryCalculatorSoap11" maxReceivedMessageSize="2147483647"
maxBufferPoolSize="2147483647" >
        <readerQuotas maxArrayLength="2147483647" maxStringContentLength="2147483647"/>
        <security mode="Transport">
                <transport clientCredentialType="Certificate" />
        </security>
</binding>
```

Behaviors Section

Add the following section to the <system.serviceModel> section. This section only needs to be added once for applications that call both SDC and Kahala

```
<behaviors>
        <endpointBehaviors>
                <behavior name="endpointCredentialBehavior">
                        <clientCredentials>
                                <clientCertificate
                                        storeLocation="LocalMachine"
                                        storeName="Root"
                                        x509FindType="FindByIssuerName"
                                        findValue="USPSInternalRootCA" />
                        </clientCredentials>
```

```
                </behavior>
        </endpointBehaviors>
</behaviors>
```

Note: the "storeLocation", "storeName", "x509FindType" and "findValue" may vary based on systems and environments.

Endpoint Section
Add the **bolded** attribute to the SDC endpoint

```
<endpoint
        address="https://sdc1.usps.gov/sdc-web/services/sdcGetLocationsServiceV2"
        behaviorConfiguration="endpointCredentialBehavior"
        binding="basicHttpBinding"
        bindingConfiguration="DefaultGetLocationsServiceR8ServiceSoapBinding"
        contract="Domestic.SDC.GetLocationsRef.SdcGetLocationsServiceR8"
        name="DefaultGetLocationsServiceR8Port" />
```

Kahala
It has been mandated by USPS that all network traffic between application be encrypted using the TLS 1.2 Protocol. To accomplish this mandate, the Pricing Engine has been updated to call Kahala using secure socket with the TLS 1.2 Protocol. The following changes are required to configuration files for applications making calls to the International Pricing Engine or the Service Delivery Extensions:

Binding Section
Add the **bolded** section to the Kahala binding

```
<binding name=" SOAPInterfaceSoapBinding" maxReceivedMessageSize="2147483647"
maxBufferPoolSize="2147483647" >
        <readerQuotas maxArrayLength="2147483647" maxStringContentLength="2147483647"/>
        <security mode="Transport">
                <transport clientCredentialType="Certificate" />
        </security>
</binding>
```

Behaviors Section
Add the following section to the <system.serviceModel> section. This section only needs to be added once for applications that call both SDC and Kahala.

```
<behaviors>
        <endpointBehaviors>
                <behavior name="endpointCredentialBehavior">
                        <clientCredentials>
                                <clientCertificate
```

```
                              storeLocation="LocalMachine"
                              storeName="Root"
                              x509FindType="FindByIssuerName"
                              findValue="USPSInternalRootCA" />
                     </clientCredentials>
              </behavior>
       </endpointBehaviors>
</behaviors>
```

Note: the "storeLocation", "storeName", "x509FindType" and "findValue" may vary based on systems and environments.

Endpoint Section
Add the **bolded** attribute to the Kahala endpoint

```
<endpoint
       address="https://kahala.usps.com/SOAPInterfaceWebModule/services/SOAPInterface"
       behaviorConfiguration="endpointCredentialBehavior"
       binding="basicHttpBinding"
       bindingConfiguration="SOAPInterfaceSoapBinding"
       contract="International.KPG.ServiceRef.SOAPInterface"
       name="SOAPInterface" />
```

Impact on Existing Applications
You will have to rebuild your applications.

Instructions
1. Copy the DLLs
2. Re-build applications with .NET Framework 4.5
3. Update the configuration files

Contents

Description	File
Folder	Libraries
Rate Engine Framework*	RateEngine_Framework.dll
Business Framework*	RateEngine_Business.dll
Domestic Business Rate Engine*	RateEngine_DomBusiness.dll
International Business Rate Engine*	RateEngine_IntlBusiness.dll
Service Delivery Extensions*	ServiceDeliveryExtensions.dll
Customs Forms Engine*	CustomsFormsEngine.dll

Library has been updated since the last SDK release

Folder	Database
Folder	Domestic
SQL Script	B-248272.sql
Release Notes	USPS Pricing Engine SDK 11_6_3_0.pdf

Reported Defects and Change Request

Zone Chart Exception Fix A fix has been applied to the Zone Chart Exceptions logic that was extended to include Priority Mail to APO/FPO/DPO (BNS 619). The logic flaw allowed the engine to return zone exceptions from multiple zone charts: one from the active, or effective, zone chart; one for each inactive, previous, zone chart that may be in the database. For example, a request for prices where the destination was an APO/FPO/DPO would return two "AdditionalZone" for Priority Mail. One for the current zone chart effective June 1. The other for the prior zone chart release effective January 1. Price calculations were never impacted.	D-30171
Zone5Digit Correction A defect was corrected where it was found the GetZones method was not returning the Zone5Digit objects. These objects descript the properties of the zone 5-digit exception. This was a result of the correction made that eliminated duplicate "AdditionalZone" above.	D-31227